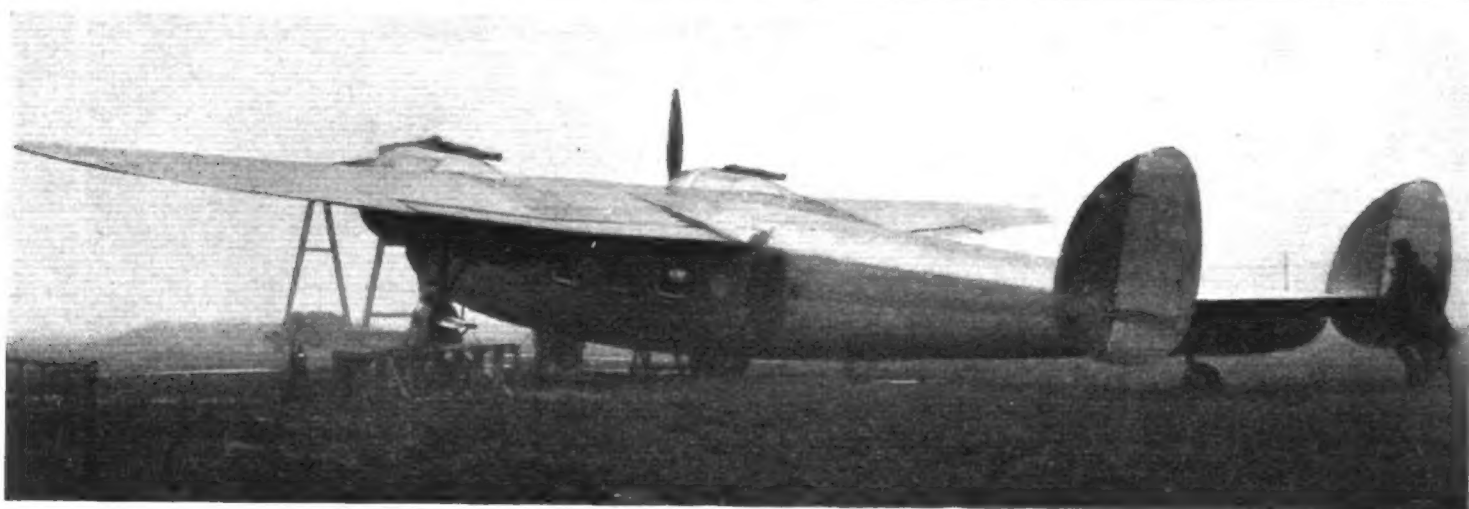
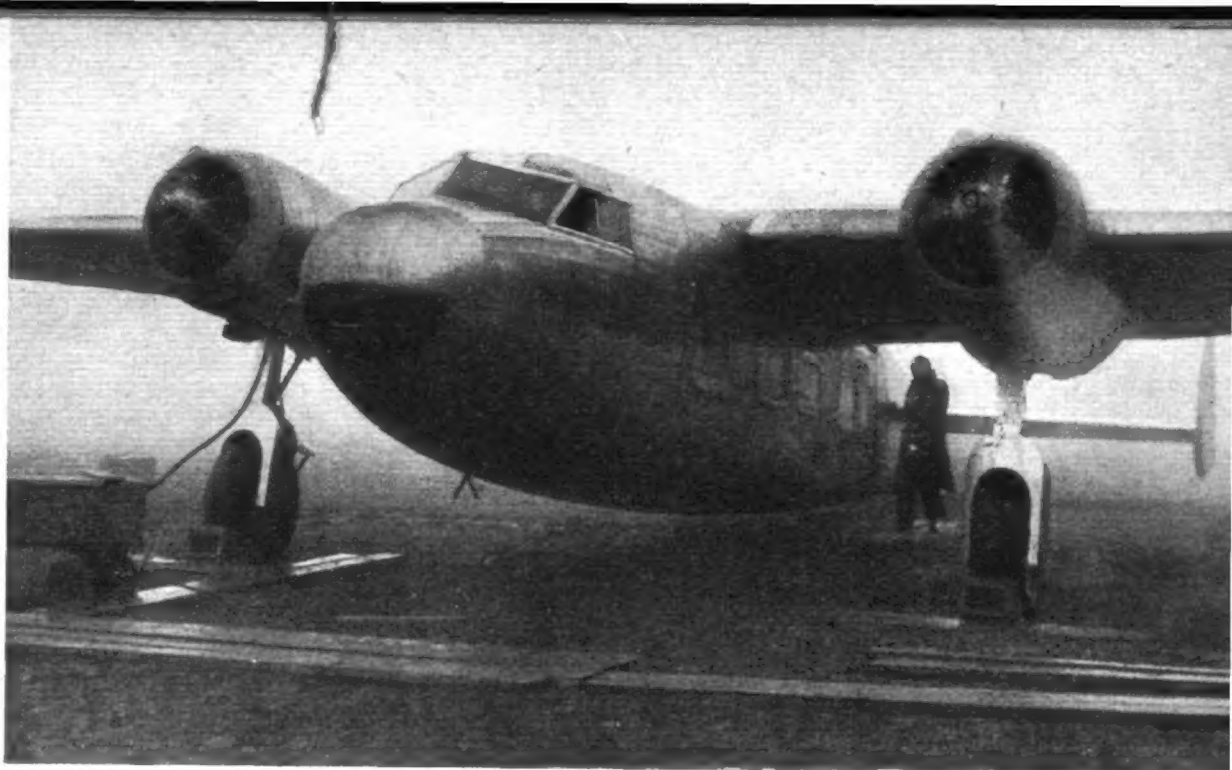


FLIGHT.

DECEMBER 1, 1938

OUT OF THE NEST:

The D.H. 95, or Flamingo, comes into the open for engine running tests. These are the first photographs to be taken of the actual machine out of doors. Almost entirely of metal construction planned for quick production, the 95 has two Bristol Perseus XIIC sleeve-valve engines of 850 h.p. each. As the photographs show, the machine is of unusually clean and sturdy appearance, and the passengers should have a first-class view



HERE and THERE (contd.)

A German Air-cooled Vee-twelve

THE oldest German aero engine factory—that of the Argus Company—has produced Germany's first geared and supercharged air-cooled inverted-vee twelve-cylinder engine. The unit has lately passed its official 200-hours type test.

The design of the new engine has been developed from that of the inverted vee-eight engine known as the As.10. Of 60-deg. vee layout, the engine has an Elektron crankcase and cylinder liners of forged steel with screwed-on heads of aluminium alloy. The combustion chambers are of spherical shape and the cylinder heads are so designed that they are cooled obliquely by the air stream. Each cylinder has two radially disposed valves operated by push-rods from two camshafts located in the crankcase. Inlet valve seats, valve guides and sparking plug seats are of bronze and the seats for the exhaust valves of steel. The whole valve mechanism is entirely enclosed.

The forged steel crankshaft has counterweights and runs in seven lead-bronze-steel bearings. The aluminium alloy pistons have three compression rings and one scraper.

A notable feature of the engine is the Argus-Hobson carburettor with automatic boost control. Other items of standard equipment are a Junkers dual fuel pump with automatic pressure governor and a Bosch twin magneto. Lubrication is on the dry sump principle with feed assured by a pressure pump and two suction pumps.

The supercharger is a centrifugal type with spring drive and the reduction gear is of the planetary variety.

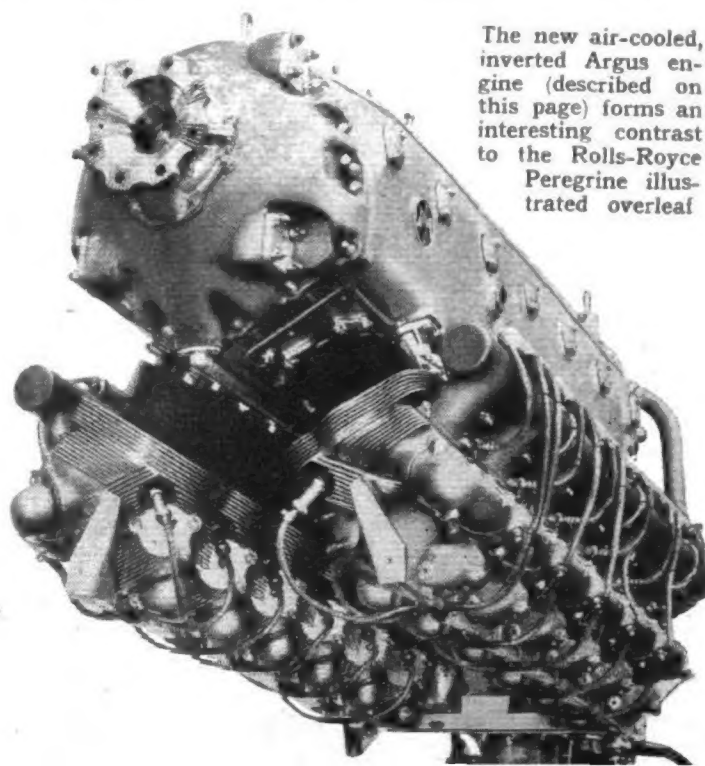
All accessories are located on the rear of the crankcase; these include an inertia starter, generator drive, hydraulic pump, air compressor and machine gun control.

Characteristics of the engine are: Bore, 105mm.; stroke, 115mm.; swept volume, 12 litres; compression ratio, 6.4:1; reduction gear ratio, 0.66:1; cruising power at sea level, 300 h.p. at 2,820 r.p.m.; cruising power at 9,850, 320 h.p. at 2,820 r.p.m.; maximum power at sea level, and at 9,850ft., 360 h.p. at 3,000 r.p.m.; take-off power, 450 h.p. at 3,250 r.p.m.; dry weight, 660 lb.; output per litre, 37.5 h.p.; overall length, 1,595mm.; width, 655mm.; height, 875mm.

Comprehensive Diary

WHAT must surely be one of the most comprehensive pocket diaries ever published has been produced by Wm. Collins, Sons and Co., Ltd., under the title of *Collins' Aero Diary*. It is designed to be of use to aircraft constructors, engineers, operators and pilots, and it contains over 200 different tabular and/or illustrated features. A few titles of reference pages picked at random will serve to show how wide is the scope: Adiabatic Compression and Efficiency, Aluminium Stresses, B.A. Threads, Compass Error, International Aircraft Markings, Aircraft Lights, Reynolds' Numbers, Great Circle Navigation, Trigonometrical Formulæ, Radio Call Signs.

There are, of course, all the usual diary features in addition. Prices are 1s. 9d. to 7s. 6d., according to binding, from book sellers or from Collins', at 144, Cathedral Street, Glasgow.



The new air-cooled, inverted Argus engine (described on this page) forms an interesting contrast to the Rolls-Royce Peregrine illustrated overleaf